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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/609,332	06/26/2003	Larry Henry Steinhorst	064731.0346	7931

5073 7590 02/09/2007 BAKER BOTTS L.L.P. 2001 ROSS AVENUE SUITE 600 DALLAS, TX 75201-2980	EXAMINER AZEMAR, GUERSSY

ART UNIT	PAPER NUMBER
2613	

SHORTENED STATUTORY PERIOD OF RESPONSE	NOTIFICATION DATE	DELIVERY MODE
3 MONTHS	02/09/2007	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Notice of this Office communication was sent electronically on the above-indicated "Notification Date" and has a shortened statutory period for reply of 3 MONTHS from 02/09/2007.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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	Application No.	Applicant(s)
Office Action Summary	10/609,332	STEINHORST ET AL.
	Examiner	Art Unit	
	Guerssy Azemar	2613	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on <u>26 June 2003</u>.

2a)☐ This action is **FINAL**.   2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) <u>1-31</u> is/are pending in the application.

　　4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) <u>1-31</u> is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on <u>06/26/2003</u> is/are: a)☒ accepted or b)☐ objected to by the Examiner.

　　Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

　　Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

　　a)☐ All   b)☐ Some * c)☐ None of:

　　　　1.☐ Certified copies of the priority documents have been received.

　　　　2.☐ Certified copies of the priority documents have been received in Application No. _____.

　　　　3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

　　* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☒ Information Disclosure Statement(s) (PTO/SB/08)
　　Paper No(s)/Mail Date <u>06/26/2003</u>.

4)☐ Interview Summary (PTO-413)
　　Paper No(s)/Mail Date. _____.

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

DETAILED ACTION

Response to Arguments

1. Applicant's arguments with respect to claims 1-31 have been considered but are
moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all
obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1, 4, 5, 6, 8, 14 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Bruckman et al. (20040179518) in view of Gaskill (5,629,940).

(1) With respect to claims 1, 8, 9, 24:

As shown in figures 1, 2, 3, Bruckman et al. teaches a method for providing

communications service during an upgrade of an optical communications ring

formed from a plurality of nodes, each node operable to transmit and receive a first

frame having a number of first time slots equal to N, wherein N is an integer and the

first timeslots are occupied by data (timeslot equal to N before upgrade, paragraph

0073 teaches OC-48 as the number of timeslots the system upgrades from), the

method comprising:

upgrading a first node in the optical communications ring by increasing a data

transmission rate of the first node to an increased rate, the first node coupled to a

second node, the second node operable to transmit data at the data transmission rate

(40, 42 in figure 2, 70, 72 in figure 4, page 3, paragraph 29);

at the increased rate, transmitting from the first node to the second node at a

number of second time slots equal to M, wherein M is an integer greater than N and

the data occupies a number of the second time slots of the second frame equal to N

(70, 72 in figure 4, page 5, paragraphs 73, 75, upgrade from OC-48 to OC-192).

Receiving the second frame (the second frame refers to the frame transmitted

after the upgrade) at the second node (any node 32 in figure 1); and

Detecting, at the second node, the data in the identified second time slots of the

second frame (page 3, paragraph 0032, the node communicate at the second rate).

However, Bruckman et al. do not teach providing at least one identifier to the

second node, the at least one identifier identifying the occupied second time slots of the

second frame.

Gaskill teaches providing at least one identifier to the second node, the at least

one identifier identifying the occupied second time slots of the second frame (column 2,

lines 22-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the identifier taught by Gaskill in the network taught by Bruckman

et al. because by pointing directly to the occupied timeslots the system is able to

perform data acquisition quicker (column 2, line 14).

(2) With respect to claims 4, 5, 12, 13,18,19, 26, 27:

Bruckman et al. teaches the method, wherein M equal one hundred and ninety two and N equals forty-eight (page 5, paragraph 73, "OC-48 (2.4888 Gb/s) and OC-192 (10Gb/s)").

(3) With respect to claim 6:

Bruckman et al. teaches the method further comprising generating a third frame at the second node, the third frame having a number of occupied time slots equal to N occupied by the detected data (any node 32 in figure 1) and transmitting the third frame to one of the nodes (as taught in paragraph 0012, the nodes 32 in figure 1 transmit to one another).

However, Bruckman et al. do not teach unoccupied timeslots.

Although Bruckman et al. teach no unoccupied timeslots one skilled in the art would clearly recognize the capability of nodes sending frame to one another to generate frames where all the timeslots are full. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use no unoccupied timeslots in the communication system taught by Bruckman et al. because, in doing so, no empty slots are wasted during transmission. Hence a better use bandwidth is made.

(4) With respect to claim 14:

Bruckman et al. teach the method further comprising:

receiving the second frame at the existing node; and

transmitting another frame to another one of the existing nodes at the existing rate (page 2, paragraph 0012, teaches communication between the nodes at different rates).

However, Bruckman et al. do not teach detecting, at the existing node, the data in the identified time slots of the frame according to the at least one identifier; generating another frame at the existing node, the another frame having fewer time slots than the second frame and a number of occupied time slots equal to N occupied by the detected data.

Gaskill teaches detecting, at the existing node, the data in the identified time slots of the frame according to the at least one identifier (column 2, lines 22-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the identifier taught by Gaskill in the network taught by Bruckman et al. because by pointing directly to the occupied timeslots the system is able to perform data acquisition quicker (column 2, line 14).

Although neither Bruckman et al. nor Gaskill teach generating another frame at the existing node, the another frame having fewer time slots than the second frame and a number of occupied time slots equal to N occupied by the detected data; one skilled in the art would know that the node taught by Bruckman et al. (paragraph 0012) are capable of generating frame with different sizes. Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to generate another frame at the existing node, the another frame having fewer time slots than the second frame and a number of occupied time slots equal to N occupied by the detected data because by generating fewer timeslots the frame would then be full and that would result in an efficient use of bandwidth.

4.   Claims 3, 11, 17, 25 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Bruckman et al. (20040179518) and Gaskill (5,629,940) as applied to claims 1 and

8 above, and further in view of Krishnamoorthy et al. (US 6,625,165).

Bruckman et al. and Gaskill teach the method, wherein data comprises payload

data (frame taught by Gaskill in figure 1 inherently includes the payload).

However, Bruckman et al. and Gaskill don't teach redundancy data, and wherein

the payload data occupies a first group of the second time slot designated for payload

data and the redundancy data occupies a second group of the second time slots

designated for redundancy data.

Krishnamoorthy et al. teaches the method, wherein data comprises redundancy

data, and wherein the payload data occupies a first group of the second time slots

designated for payload data (317 in figure 3) and the redundancy data occupies a

second group of the second time slots (319 in figure 3) designated for redundancy data

(317 and 319 in both time slot 1 and time slot 2 in figure 3, column 4, lines 23 - 34).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to have separate time slots for payload and redundancy data as taught

by Krishnamoorthy et al. in the transmission of the frame of Bruckman et al. in order to

correct possible errors incurred during transmission of that data.

5.   Claims 15, 16, 20, 21, 23, 28, 29, 31 are rejected under 35 U.S.C. 103(a) as

being unpatentable over Bruckman et al. (20040179518) in view of Homma et al.

(20040223451) and Gaskill (5,629,940).

(1) With respect to claims 16, 23, 31:

Bruckman et al. teach a system for forming an optical communications ring, comprising: a first node operable to transmit and receive a first frame at an existing rate (20 in figure 1), the first frame having a number of occupied time slots equal to N occupied by data, wherein N is an integer (timeslot equal to N before upgrade, paragraph 0073 teaches an upgrade from OC-48 to OC-192, N is 48); a second node coupled to the first node through optical fiber (24a and 24b in figure 4).

a bit transmission unit (32 in figure 1, any node) operable to transmit a second frame to the first node at a rate that is higher than the existing rate (40 in figure 2, page 5, paragraph 0073, upgrade from OC 48 to OC 192), the second frame having a higher number of time slots than the first frame (OC 192 has higher number of timeslots than OC 48).

However, Bruckman et al. do not teach a bi-directional line switched ring; a switch unit coupled to the bit transmission unit, the switch unit operable to generate a pattern of data that fills a number of the time slots of the second frame equal to N and to send the pattern of data to the bit transmission unit; wherein the first node comprises at least one identifier identifying the occupied time slots of the second frame.

Homma et al. teach a bi-directional line switched ring (see figure 18); a switch unit (1h in figure 1) coupled to the bit transmission unit (the switch is inherently coupled to a transmission unit), the switch unit operable to generate a pattern of data that fills a number of the time slots of the second frame equal to N and to send the pattern of data to the bit transmission unit (the reference teaches TDM network, which means the

system allocate time slots for traffic from one node to another, and uses a transmitting unit to send those frames.).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the BLSR and TDM network taught by Homma et al. in the network taught by Bruckman et al. because BLSR allows for data frames to flow in opposite direction around dual fiber rings, which is used for protection in the event of a failure. Furthermore TDM provisions bandwidth in a round-robin manner, which helps to avoid collisions.

Gaskill teaches at least one identifier identifying the occupied time slots of the second frame (column 2, lines 22-24).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the one identifier taught by Gaskill in the network taught by Bruckman et al. in order to perform quicker data acquisition by pointing directly to the occupied time slots (column 2, line 14).

(2) With respect to claims 15, 20 and 28:

Bruckman et al. teach all of the subject matter as described above except for the node wherein the data is divided into a plurality of categories, and the time slots are divided into a plurality of sections each corresponding to a particular one of the categories, and wherein the switch unit is further operable to fill each section with only a corresponding one of the categories of data.

Homma et al. teach the node wherein the data is divided into a plurality of categories, and the time slots are divided into a plurality of sections each

corresponding to a particular one of the categories (time slots are inherently divided into categories of data, which represent bytes of data or sections of data), and wherein the switch unit is further operable to fill each section with only a corresponding one of the categories of data (1h in figure 1, the reference teaches TDM network, which means the system allocate time slots for traffic from one node to another, and uses a transmitting unit to send those frames).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the switch unit taught by Homma et al. in the network taught by Bruckman et al. in order to route the data frames onto their respective paths.

(3) With respect to claims 21 and 29:

Bruckman et al. teach the node, and further comprising a signaling unit, the signaling unit operable to coordinate data frame transmission with the existing nodes using a protocol that aligns with the existing rate (Manager of figure 3, sends commit request signals or execution command signals to the other nodes).

However, Bruckman et al. do not teach a switch unit, wherein the signaling unit is coupled to the switch unit.

Homma et al. teach the switch unit (1h in figure 1).

Therefore it would have been obvious to one of ordinary skill in the art at the time of the invention to use the switch unit taught by Homma et al. in the network taught by Bruckman et al. in order to route the data frames onto their respective paths.

Although Homma et al. do not teach the signaling unit is coupled to the switch unit. In the TDM network the switch takes care of routing the data frame because it

automatically is programmed to choose certain timeslots at certain time frames.

Therefore a signaling unit or a control device would be inherently coupled to it for

timing and where to route the frames.

6.   Claims 22 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable

over Bruckman et al. (20040179518) and Homma et al. (20040223451) and Gaskill

(5,629,940) as applied to claims 23 and 31 above, and further in view of Horishita et al.

(6,534,997).

(1) With respect to claims 22, 30:

Bruckman et al. and Homma et al. and Gaskill teach the bit transmission unit (the

nodes taught by Bruckman et al. teach the transmission of signals).

However, Bruckman et al. and Homma et al. do not teach a laser gun that is

operable to transmit a pattern of light pulses that represents the second frame.

However, Horishita et al. teach a laser gun that is operable to transmit a pattern

of light pulses that represents the second frame (61 in figure 4, used to generate the

patterns of figure 10).

Therefore it would have been obvious to one of ordinary skill in the art at the time

of the invention to use the laser gun taught by Horishita et al. as the transmission unit

taught by Bruckman et al. in order to generate the light pulses transmitted throughout

the network.

Allowable Subject Matter

7.   Claim 7 is objected to as being dependent upon a rejected base claim, but would

be allowable if rewritten in independent form including all of the limitations of the base

claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the

examiner should be directed to Guerssy Azemar whose telephone number is (571) 270-

1076. The examiner can normally be reached on Mon-Fri (every other Fridays off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's

supervisor, Kenneth Vanderpuye can be reached on (571) 272-3078. The fax phone

number for the organization where this application or proceeding is assigned is 571-

273-8300.

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system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Guerssy Azemar

01/24/2007

KENNETH VANDERPUYE
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